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Ms. Marlene H. Dortch
Secretary
Federal Communications Commission
445 12th Street, S.W.
Washington, D.C. 20554

Re: Reply Comments from the National Cable and Telecommunications Association on NBP Public Notice #27: Dkt. Nos. 97-80, 09-51, 09-47, 09-137.

The recent filing by the NCTA regarding the Commission's goal of establishing a retail market for navigation devices is filled with many technical inaccuracies as well as misleading statements that further demonstrate that MVPDs are genuinely not interested in helping the Commission achieve their goals. While they do assert that they are aligned with the goals of the Commission; their past and current actions indicate that this is definitely not the case.

One of the main assertions made in the NCTA's filing indicates that the gateway device proposals leave out fundamental elements of the TV viewing experience. Specifically, they mention the Emergency Alert System (EAS), closed captioning, parental controls, Quality of Service (QoS) and interactive content.

The EAS requirement is easily met by implementing it in a similar fashion to how it is currently implemented. If a gateway device is providing content to another navigation device in the home; then the gateway device can simply output the EAS

information in the stream the same way it would as if the user was viewing using a currently available STB from their MVPD. The output of the gateway device is very similar to that of the output from an MVPD supplied STB; the main difference being that the gateway device will provide the original compressed bitstream for better distribution around the home and for easier storage by DVRs. This compressed bitstream can easily be switched to one that contains the EAS signal in an event of an emergency.

In addition to this; for users of cable TV systems that are receiving only analog or clear QAM signals; the receiving devices currently in use in those scenarios have no capabilities to do anything special in the case of an EAS alert. We propose that the FCC starts a new proceeding regarding EAS which would address these additional scenarios and also provide a more comprehensive solution to the problem. With the increase in various networked devices around the home including cable modems provided by MVPDs; a new solution to the EAS problem should be developed that can integrate with a wider array of devices and provide consumers the best opportunity possible to receive EAS information should an alert occur. Delivery of an authorized EAS alert can be done through a broadband connection and multicast on the home LAN so that all devices in the home, not just TV's and set top boxes; can alert consumers to vital information. Compartmentalization of EAS obligations in narrow categories like TV and radio ignores the vast changes that have occurred in technology in the last two decades, and the public would benefit considerably by FCC solving this problem comprehensively. The NCTAs attempts to consider EAS an 'issue' for gateway devices should be steadfastly ignored.

The closed captioning and parental controls requirements are examples of misinformation that the NCTA is trying to present to the commission. The current compressed video signals being transmitted using QAM encoding of an MPEG stream already contain this information. The gateway proposals indicate that this compressed bitstream is what the output of the gateway device should be. All

currently utilized video encoding techniques on the MVPDs networks support a 'user data' field in the video bitstream which is standardized for encoding the closed captioning information. These bitstreams already carry the required information; and navigation devices receiving the content from a gateway device would then be able to display the closed captioning information as well. The Commission should adopt rules that would require the navigation devices to be able to display the closed captioning information when selected by the user.. Asserting that deaf consumers would be harmed by the FCC imposing an MVPD gateway mandate to help fulfill its section 629 obligation is clearly not supported by the facts and should be dismissed as posturing.

Similarly; parental controls information is already contained within the MPEG2 transport stream layer that is being used for all transmission currently. Standards already exist; and are being utilized; which specify what the parental control information is for the content. The Commission should also adopt rules regarding how navigation devices should respond to the parental controls information.

Again, the NCTAs claims regarding the lack of closed captioning support and parental controls support relating to a gateway device has no factual basis.

The QoS issue is another misleading issue because the gateway device has no impact on the QoS that the MVPD is supposed to provide. The part of the MVPDs network for which they are responsible for QoS would terminate at the gateway device. This is identical to the response that they take regarding Internet service into a consumer's home. They do not provide any QoS support for any issues that arise on a consumer's LAN. Similarly; telco providers do not deal with QoS issues relating to cordless phones used in the home. When MVPD's deliver cable programming via broadband Internet access to devices in the consumer's home (e.g. "TV Everywhere"), no such QoS on that network exists to "protect" that stream. It is interesting that they bring up QoS as a requirement for video transport when 3rd parties seek to compete with devices they choose to offer, but not when it would be

applicable to other services they deliver to the consumer over the same network infrastructure. There's a clear demarcation point of where the MVPDs QoS responsibility ends; and that is at the gateway device.

QoS is, again, another point the NCTA is attempting to make to mislead the Commission into believing that a gateway device would not provide consumers with an adequate solution. And again; the NCTA is incorrect. The 3rd party navigation devices can also directly connect to the gateway device eliminating any QoS concerns.

Interactive content is an area where MVPDs are trying their best to innovate in the current systems they have in place. However; adding interactive features to a gateway device is not difficult. There are very clear standards currently used for providing interactive content over the Internet. Using some of these basic functionalities; such as simple interactive HTML web pages that function over the same HTTP protocol proposed for use with the gateway devices; could allow MVPDs to provide various alternative services and provide menuing systems for VOD and other interactive features. T-commerce can also be done through this same mechanism.

If the Commission requires that navigation devices that communicate with gateway devices support displaying of content using HTML; this could only assist in their goals of providing more Internet content to users through their television.

The NCTA also continues on indicating that the HTTP protocol is insufficient for this purpose and does not contain the required 'fields' used. Anyone familiar with the protocol is aware of the ability of specifying arbitrary fields in either the request or the response; and again, this is misleading information by the NCTA. If the NCTA believes additional fields need to be added; they can clearly communicate this need and it can easily be added to a specific protocol used for communication. This is another indicator that the MVPD industry is reluctantly following and resisting technology developments rather than making best use of

proven innovations that have contributed to the incredible growth of the Internet and the many businesses and jobs those innovations have supported.

The NCTA also attempts to establish that there are various copyright issues associated with providing the metadata for VOD applications to 3rd party devices. If they truly believe this; and do not wish to provide VOD metadata to be utilized by navigation devices; there are alternative options. For the consumers that choose to use a 3rd party navigation device; and are being denied the option of receiving the VOD content due to the MVPDs desire to not provide the metadata; then the consumer should be compensated with a reduction in rate that the MVPD is charging them if this is for the bundled VOD service (i.e. not PPV). For PPV VOD services; we see no problem with them not implementing this feature at all in the gateway device if they choose not to because they have concerns regarding copyrights on this information. We believe that many pay per view style video on demand services exist on the Internet today, such those offered by Netflix, Amazon.com, and many others. If the commission succeeds in creating a robust 3rd party market for set top boxes as it's section 629 mandate requires, consumers will be able to enjoy a MUCH wider choice of pay per view options delivered over their broadband connection than is offered by even the most robust MVPD VOD catalog today. If MVPDs insist on preventing such services from being accessed by millions of consumers equipped with 3rd party devices, it will be their own revenue streams that will suffer because of it.

It is also asserted that the retail navigation devices used with the gateway devices would somehow communicate with the MVPD headend directly. This is clearly false; as the purpose of the gateway device is to handle all communication with the headend in order to abstract that functionality out of the navigation device. Claims that gateway devices would allow 'rogue' software to infect MVPD networks are patently false. The gateway device should implement the same security currently used to communicate with the MVPDs headend; and would provide zero increase in theft of service.

Additional concerns the NCTA may have relating to a gateway device directly providing content outside of the intended consumer's home can also be addressed. The gateway device can simply use a TTL of 1 in its TCP/IP packets in order to not allow them to travel outside of the home network. It could also do round-trip-time calculations in order to ensure they're not traveling a distance which would be beyond the reasonable reach of a consumer's home.

References to Section 629 are also made; again referring to theft of service; which is as previously stated; something that the gateway devices would in no way enable. We completely agree theft of service is a serious matter; and would never propose a solution that would enable such an act.

In their filing, the NCTA is attempting to confuse the issue of content protection. There are clearly two areas. One is regarding theft of service. The other is regarding DRM or other protections that are applied to content that is being output for viewing or recording in a consumer's home.

The NCTA is stating that in order to properly protect the content that they are distributing; the entire ecosystem for this must be a closed one. They falsely state that somehow output protection directly relates to theft of service. Their arguments for a closed system are clearly in direct contradiction to the mandates given to the FCC by Congress that require navigation devices to be available on the 'open' retail market. The FCC's plug and play order clearly rejects this completely overbroad assertion when it discusses this issue and states in paragraph 50 of the order: "We interpret the statute in the context of its purpose. We believe that in including Section 629(b)'s "Protection of System Security" provision, Congress was concerned about preventing system security in terms of theft of service, that is, preventing a non-subscriber from obtaining unauthorized access to multichannel video programming or other services. Section 629(b) is expressly directed at the protection of *system* security and the prevention of theft of service. The legislative history likewise indicates Congress' focus on the protection of *system* security and theft of service. There is nothing in either the statutory language or the legislative

history to suggest that Congress intended Section 629(b) to extend to content protection technologies for programming that a subscriber properly had access to."

This other area of content protection relates to what happens to the content the consumer is authorized to view as it is output from the gateway or navigation device. We strongly believe that the output from the gateway device should be an unencrypted compressed bitstream. This will in no way increase theft of service. This will greatly open up competition in the navigation device market; because no certification would be required in order for navigation devices to receive this content from the gateway device. Certification has been used as a tool by the MVPD industry to prevent competition from 3rd party devices. The FCC will NEVER be successful in accomplishing it's mandate under section 629 if it sides with NCTA in concluding a closed ecosystem is required to protect content to an extent that FCC regulations do give them authority to impose.

The main concern of the content provider is not in how consumers utilize their authorized content within their home; but it is in mass redistribution of said content. Effective solutions to this problem already exist today in the form of watermarking. The MPAA has successfully prosecuted numerous cases from people who have redistributed watermarked content over the Internet. Watermarking provides all the tools necessary for law enforcement and interested rights holders to apply the many effective copyright rights laws identifying sources of redistribution as well as confirming unauthorized copies. We suggest that the MVPDs be allowed to implement any form of watermarking they choose within the gateway devices. As mentioned, this allows them to track down the source of any redistribution piracy and also allows them to maintain secrecy regarding the watermarking techniques; because this would be handled inside the gateway device and not in the navigation device. Any copyright or redistribution violators would not be able to verify that their copy was not traceable which is a powerful disincentive. Watermarks can be inserted by the MVPD into video programming in several ways that will not affect

video quality in any perceptible fashion, and will not adversely impact consumers exercising their legal rights to view content in their homes.

An attempt to use encryption to protect the output of the gateway device is an idea that is doomed for failure. One thing the NCTA did get correct in their filing was their comments regarding 1394 and its failures. At SageTV; we have numerous customers which utilize the 1394 output of their cable STB in order to record their content with a 3rd party navigation device (e.g. PC running SageTV software). However; very few customers are actually able to utilize this technique. Only those that have an MVPD that has not chosen to enable 5C protection on the 1394 outputs can use this technique successfully, and despite the requirement on the MVPD to provide devices that support this functionality. This clearly links encrypted content output to the failure of the 1394 interface in the cable STB market. Interestingly enough; there are of course approved techniques for receiving the encrypted content; but none of these allow for recording to a hard disk drive, which is the technique employed by all DVRs. Supporters of 1394 like to refer to DTCP as a valid technique for receiving the content; but DTCP only covers transmission of content and NOT storage of it. The only approved storage techniques were for optical discs and DVHS tapes; neither of which is suitable at all for use with a DVR.

The NCTA also refers to consumer choice never being greater than it is now; but this is yet again a clearly misleading statement. This is painfully obvious by going into any electronics store and asking to purchase an alternative device to the MVPD supplied STB that can be used to navigate and view the MVPD's content. The only choices would be a Tivo Series 3 DVR; which is fairly costly and only works with cable MVPDs; and a Microsoft Windows Media Center PC, which is clearly not a set-top-box in form factor or noise level, is significantly expensive, and again only works with cable MVPDs.

Comments regarding crippling delays that would be introduced by attempting to define how a gateway device should behave are indications of the NCTA's desire simply to incite fear in the Commission. Looking to industry

veterans regarding home networking and content distribution such as Cisco, TiVo, SageTV and Microsoft would allow rapid development of an adequate standard. ANSI standardization would not be essential for a gateway device. The NCTA's simple fear of implementing any kind of standard in this area clearly points to their desire to shut out any competition in the navigation device market; which they have been very successful at to this date causing the loss of thousands of US jobs and hindering the ability of US companies to apply new technology to develop a multibillion dollar export industry.

Cost increases that the MVPDs claim would be incurred by the gateway devices are only a short-term issue relating to development of the initial devices. Longer term cost savings will be achieved by the ability to supply even lower-cost devices for use in consumer's homes. Gateway devices would be much cheaper than even the simplest STBs currently being deployed as they would need less processing power due to not having any display capabilities and no video outputs due to their only output technique being Ethernet (either wired or wireless). Devices already exist which could easily be transformed into a gateway device; one example is the SiliconDust HDHomeRun CableCard tuner which was announced at CES in January, 2010. This device can provide unidirectional cable TV service to other devices on the network over an Ethernet layer. It does not use the protocols specified in the gateway proposals; but updating the firmware on the device to handle the new protocols would not be difficult. The major issue with this device is its requirement of CableLabs certification for anything it communicates with; which limits it exclusively to Microsoft's Windows Media Center PC software use. Removal of the CableLabs certification for allowing communication with this device is another short-term solution which the Commission could adopt in order to immediately begin to open up the market for retail navigation devices. We at SageTV; would commit to producing a retail navigation device by Q3 of 2010 that would support integration with such a solution. And we would also commit to the same thing for

integration with the proposed gateway device; with a timeframe of 6 months after the protocols for such communication were standardized.

We also understand the issues related to metadata associated with live TV programming provided by MVPDs, and the related contractual obligations they may have there; and that it may not be feasible for them to provide all of this information to 3rd party navigation devices. There are also some other issues of the GUI implementation used which may require patent licensing; but this is outside of the scope of the gateway device; and the maker of the navigation device would have to deal with these issues themselves, as we currently do in our own line of products.

The NCTA also attempts to confuse the issue by citing Constitutional rights they have regarding copyrights on their program guide and presentation of the aggregated content. They also state that they receive guide metadata for linear TV from 3rd parties. We receive guide metadata for linear TV programming via license arrangement from the same 3rd parties that the NCTA uses and we and others have also used this arrangement for decades. It's curious that only now do they mention they have such an exclusive right. Various companies currently provide display of this content (including Microsoft, SageTV and Tivo) using their own techniques. However; no indication has ever been made by any MVPD that they are infringing on the MVPDs copyrights by doing so. An attempt to claim such a copyright would be farcical at best; and would likely be thrown out immediately by any court in this country.

Regarding VOD metadata information, exposing that information to a 3rd party device has little purpose unless the 3rd party device can initiate the playback of such programming. Since the MVPD gateway is a simple and cheap device, containing no OCAP capability or the ability to decode video streams or render graphics for a display, it is not capable of running a guide or decoding video programming on its own. Though it is technically very feasible, forcing the MVPD's to create an open interface to signal VOD playback through their proprietary networks from a broadband connected device would require more

regulatory intervention than a simpler approach where 3rd party devices access such programming by streaming through the broadband pipe. For example, Comcast makes much of the VOD programming that is bundled through their VOD offering available to PC's through their Fancast offering. Many other MVPD's have announced plans to offer similar services. From a 3rd party device perspective, accessing such VOD programming through the broadband pipe is technically straightforward, and does not require signaling from the end device to the headend. In fact, such VOD programming would not travel through the MVPD gateway or Cablecard device at all, but instead through the broadband network. We think this is an elegant solution and avoids the need for much of the complexity that NCTA implies is required to make VOD programming available to 3rd party devices.

However, the FCC should require a MVPD make such programming available to all devices, not just PC's or other general purpose computers. We note with great concern that NBC/Hulu has restricted which devices can access on demand programs through that service platform, seemingly with the intent of not allowing a 3rd party device vendor to access such programming and display it on the television and competing with an MVPD's own VOD service. Very few PC's are connected to televisions, so allowing such programming to be accessed on PC platforms alone prevents consumers from using that platform to view these programs on their televisions, but requiring a subscriber use the MVPD's VOD service as integrated through their own set top boxes. Assuring Internet based VOD services are open to consumers on any platform they may choose, whether it be a PC or a dedicated CE device is clearly in the public interest, and is clearly technically feasible, as Netflix, Amazon and others have shown by making their own on demand video catalogs available to BOTH PC's and CE devices.

Attempts of the NCTA to claim that the Commission does not have jurisdiction to require gateway devices is simply untrue. Section 629 requires the Commission to ensure the commercial availability of navigation devices. As prior attempts at this, relating to 1394 and CableCard (as currently constrained by

CableLabs approval processes) have proved to be wholly unsuccessful; the Commission has essentially no choice but to move to a different technique in order to achieve its goals that have been mandated by Congress. Alternatively; removal of the CableLabs certification process from CableCard navigation devices or removal of 5C output protection from 1394 ports on cable STBs are ideas that should be considered in order to help achieve this goal.

We strongly encourage the Commission to fully understand what the NCTA is trying to do here; and that is to undermine the Commission's goals relating to Section 629. There is NO currently viable market for retail navigation devices; and as long as the Commission allows the NCTA to define the rules of that marketplace; this will continue to be the case. We support the introduction of a mandate for gateway devices that use watermarking for content protection and that communicate with any 3rd party navigation device without requiring certification of these navigation devices; as any such certification process would only stifle innovation by companies attempting to enter this market.

We also believe it is very important that all MVPDs are included in this order. Although the NCTA is the main focus of these comments; the gateway device should be required across all of the MVPDs (i.e. satellite, cable, FIOS). This will then alleviate any consumer fears about investing their own money into technology that is tied to one specific delivery mechanism. It will also promote even further competition between MVPDs because consumers could switch between them more easily by just changing the gateway device in their home. Today, consumers who wish to change providers have to deal with the unenviable pain of losing access to all the recordings they rightfully purchased, having to swap out every digital set top box in their home, and having their family learn a completely new user interface and remote control to watch even basic television. This creates an artificial barrier to competition that does not need to exist. When consumers can simply swap out a MVPD gateway and have no impact on recordings or user experience, competition

will heat up between MVPDs and put pressure on pricing and increase consumer choice.

We also believe retail navigation devices in this market would be relatively low cost; with initial devices likely being below $150 USD and with some optimizations they would likely come down to the $99 USD price point (without hard disk storage) and priced modestly above that for devices that include storage. Also, arguments made by the NCTA that indicate that TVs themselves that include this functionality are examples of success in this marketplace are irrelevant. Expecting a consumer to purchase a new TV in order to expand their services is wasteful and expensive. Tens of millions of homes have already purchased HDTVs with the expectation of being future-proofed for many years to come. Requiring consumers to purchase a new TV to get additional content services in their living room burdens them with unnecessary costs at a time when consumer budgets are severely strained and is not a healthy message to send out. Since the TV has a different user interface for dealing with these services than their MVPD set top box, it creates a barrier to adoption and use that reinforces the traditional viewing instead of creating an integrated experience blending traditional MVPD programming and Internet delivered programming.

To the extent the commission cares about encouraging diversity in video programming, it should focus on empowering 3rd party CE manufacturers to create devices that integrate traditional linear programming from MVPD's and over the top Internet video streaming. Because of the low barrier to entry that exists for distributing video content over the Internet, it is the place where the most variety and diversity of speech is found today. No MVPD integrates this kind of Internet programming into their customer experience today, effectively silencing diverse voices that offer differing opinions on news and many other vital topics by not giving them a competitive platform to be heard through. 3rd party device manufacturers on the other hand embrace these voices and use them to differentiate the experience they deliver to consumers. As locally generated video content

dwindles on cable and broadcast networks, it is exploding on the Internet. If the FCC acts to enable 3rd party devices to flourish, it will create new distribution channels for this new local content as well. Shouldn't consumers be allowed to access this exploding amount of content on their televisions? We think the answer is an unqualified yes, and it will only happen by breaking the stranglehold that MVPD's have on the distribution of video content, which will only happen if a robust market of 3rd party Internet connected navigation devices exists.

Our industry has many skilled and capable technology innovators that would appreciate the opportunity to compete in an open and vibrant marketplace for 3rd party navigation devices in the US. Many US consumers we have spoken with would also greatly appreciate an open marketplace for innovative 3rd party navigation devices. The FCC has clearly learned from its past mistakes and now knows what it needs to do to finally fulfill its mandate to assure a robust competitive 3rd party navigation device market will exist as its statutory mandate demands. To argue that yet another NOI should be conducted on this topic instead of proceeding immediately to an NPRM ignores the record and plays into the hands of the incumbent manufacturers and the MVPD's who want to continue to stifle innovation and use their own leased devices to erect barriers to consumer choice, not just in functionality, but also in changing MVPD service providers. Delay and claims about the "need to gather more information" has always been the primary tool of incumbent providers in all sectors to stifle competition. Such proclamations from the NCTA are hardly surprising and accordingly should be disregarded. We would appreciate the Commission's earnest consideration of these proposals and encourage you to act now. Doing so will reap a tremendous harvest of innovation and consumer value, and increase the level of competition in a market that sorely needs it as repeated consumer price increases have shown. Comparing the market for MVPD video services with that of cellular telephony, landline voice service, broadband access and consumer electronics in general clearly shows the need to create open interfaces that will allow innovation to occur. The time to act is now –

no other conclusion would be a responsible one. The US cannot afford to let another industry wither and fail from lack of an open marketplace.

Please direct any questions or correspondence to our attention.

Sincerely,

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